

IN THE SPECIFICATION

Please amend the specification as follows:

Page 1, replace first paragraph with the following:

31 The invention which is the subject of this application relates to the ability to compile a database of information such as, but not exclusively, broadcast program material, in a memory and to the generation and provision of identification means to allow the retrieval of the material and to the ability to include a means for processing the material as it is received to allow the generation of the identification means prior to storage.

Page 1, replace the paragraph beginning at line 8 with the following paragraph:

32 It is known in the transmission of broadcast material, which can be any or any combination of video and/or audio data and/or auxiliary data, that the data is received at a premises by a broadcast data receiver and that the received data can be decoded and stored in a hard disk drive or other form of random access memory for subsequent selective retrieval which may be provided integral with the receiver or connected thereto. However, with the ability to store the material in memory there is the accompanying demand to be able to identify and retrieve the data readily and review the material to allow a selection to be made of a portion of the stored material or the required part of the material to be identified. In order to allow the efficient retrieval of material, it is necessary to be able to accurately identify segments of the material at the time of storage so that for example, for video material, the frames of video can be identified, and the particular form of frame and coding method used can be identified with respect to each frame for subsequent retrieval and generation of a video display.

Pages 1 and 2, replace the paragraph beginning at line 25 on Page 1 and ending at line 10 on Page 2 with the following paragraph:

33 The use of the memory is at present complicated by the reception of broadcast program material that is transmitted in a scrambled or encrypted format to prevent unauthorized viewing of the same. The material can be descrambled by, for example, the payment of an appropriate sum to authorize the descrambling; however, it is desired that encrypted material should also be able to be stored in a memory and an identification database created. A known solution is to record the broadcast encrypted material, read it from the memory and then parse it to obtain the appropriate start identifier for the material. This solution has the benefit of not requiring the construction of a database of location identifiers but does have the disadvantage of requiring for retrieval that all of the material data has to be read from the memory at a high rate until the start identifier is located as this is the only reference identification.

Page 2, replace the paragraph beginning at line 18 with the following paragraph:

34 In a first aspect of the invention there is provided a system including a receiver for broadcast data having a means for identifying and storing broadcast program material in a memory means and allowing subsequent selected retrieval of material from the memory, characterized in that the method includes the steps of receiving the broadcast program material and, if the material is in an encrypted format, processing the material using some or all of the steps of data de-scrambling and/or data decrypting and/or data stream parsing to generate a number of location identifiers for respective portions of the material, which identifiers are held in a database for reference and upon selection of

B4 an identifier or identifiers, retrieval of a respective portion or portions of material from the memory means.

Page 3, replace the paragraph beginning at line 1 with the following paragraph:

B5 Thus, the system allows for the identification and storage of encrypted broadcast program material in a memory means and subsequent selected retrieval of the material from the memory, with the method typically including the steps of receiving the broadcast program material and, if the material is an encrypted format, processing the same, typically using the steps of descrambling or decrypting and stream parsing to be able to generate a number of location identifiers for the material that are held in a database for reference in the retrieval of the memory from the memory means. Typically, the material which is referred to in this specification is digital data which can be any of video, audio and or auxiliary data and which, after reception at the broadcast data receiver, can be decoded, and if necessary reordered and combined to generate for viewing or listening identifiable programs, teletext, Electronic Program Guides or the like.

Page 3, replace the paragraph beginning at line 16 with the following paragraph:

B6 In a preferred embodiment, the encrypted material undergoes a further processing step of copy protection so that when the material is stored in the memory, it is protected against unauthorized copying which is, of course, one of the reasons for the initial encrypting of the data. The material is held in a secure state in the memory but can be identified and retrieved.

Page 3, replace the paragraph beginning at line 22 with the following paragraph:

B7
Preferably the processing steps for the encrypted material should be performed as one process so as to prevent unauthorized access to the material when in a descrambled form.

Page 3, replace the paragraph beginning at line 25 with the following paragraph:

B8
If the broadcast program material is not encrypted, the same is received and identified for storage in the memory but need not pass through at least the processing steps of descrambling and copy protection.

Page 4, replace the paragraph beginning at line 4 with the following paragraph:

B9
In a further aspect of the invention there is provided a method of generating a database index of the location of specified features of video and/or audio data material relating to a broadcast program held in a memory device. The material is received by a broadcast data receiver from a remote location in an encrypted form. The method comprises the steps of decrypting the data, parsing the data to generate a plurality of location identifiers for respective portions of the material, and storing the location identifiers in a database, and locally encrypting the material prior to storage in the memory device.

Page 4, replace the paragraph beginning at line 14 with the following paragraph:

B10
In one feature of the invention, the memory device and processor means for performing the method described above are located in a data receiver that receives the broadcast program material from a remote source. Typically, the program material received is transmitted in an encoded digital format

B10 and the receiver includes means for decoding the received data and generating video and/or audio displays via a television set or monitor and speakers in connection with the data receiver.

Page 5, replace the paragraph beginning at line 9 with the following paragraph:

B11 By allowing for the local encryption of the material, the material can be stored securely at the broadcast data receiver, or in associated apparatus, and still be retrieved at a later time for viewing if the viewer is authorized for the decryption of the material.

Page 5, replace the paragraph beginning at line 16 with the following paragraph:

B12 In an example, it is desired to store received data material arriving in an encrypted stream 2 relating to a broadcast program, in a memory in the form of a hard disk drive for subsequent retrieval. The said retrieval may be for all of the material, portions or excerpts of the same and/or it may be required to fast-forward or rewind, pause or perform other search functions on the material in storage.

Page 6, replace the paragraph beginning at line 16 with the following paragraph:

B13 Once the location identifiers are generated and stored in the database, the material can then be re-encrypted for copy protection 12 prior to the storage of the same in the memory. A memory or disk controller 14 is utilized to generate indexing information for the memory that is stored in the database and allocated against the location identifier for the respective portions of material so that the same can subsequently be found in the memory 4.

Page 7, replace the paragraph beginning at line 7 with the following paragraph:

B14
As suggested previously, it is of advantage for security reasons to have the decryption, parsing and copy protection integrated as one process to form a material processor. The accompanying Figure illustrates in the shaded area 16 how this can be achieved and, thereby, prevents unauthorized access to the material when in the decrypted form. A further stage can be the integration of the memory controller 14 into the same unit as the material processor 16, and it allows simplified tracking of the storage sector used for the key features that are extracted and used to form the database.

Page 7, replace the paragraph beginning at line 22 with the following paragraph:

(N.E.)
B15
With the ability to store program material (video/audio etc) on hard-disk drives (and similar) it becomes desirable to have truly random access, fast-forward, rewind capabilities. To efficiently random access the stream, it is necessary to be able to physically locate say I,P,B or temporal tagged pictures. This invention relates to the construction of a database mapping particular picture properties to physically addressable units on the storage device. However, in a broadcast environment where the program
